UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
(ONLINE)
SEMESTER II
SESSION 2020/2021

COURSE NAME	:	TRANSPORTATION PLANNING & ENGINEERING
COURSE CODE	:	MFA 10403
PROGRAMME	:	MFA
DATE	:	JULY 2021
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS **CLOSE BOOK EXAMINATION**

Q1. (a) Trip generations is a concept used in transportation engineering. Explain briefly the followings:

   (i)   Origins and Destinations (O-D)

(5 marks)

   (ii)   Productions and Attractions (P-A)

(5 marks)

   (b) Explain clearly the process of transportation modelling using the Productions and Attractions concept. Use an example to elaborate your answer shown in **Figure Q1(b)**.

(15 marks)

Q2. (a) Transportation employs historical data in order to predict future traffic and travel demands. Explain briefly with examples **TWO (2)** basic demand forecasting situations in transportation planning.

(10 marks)

   (b) Discuss the factors influencing travel demand.

(5 marks)

   (c) Explain briefly with examples the applications of Traffic Analysis Zones in transportation studies.

(10 Marks)

Q3. (a) The environment is always experiencing impacts due to developments, pollutions and contaminations. Explain **FIVE (5)** impacts of traffic congestion and poor transportation system on the environment.

(10 marks)

   (b) A Borneo Highway Network is being earmarked to be constructed in year 2021 in order to enhance the connectivity of rural and urban areas in Sarawak and Sabah regions. Discuss the major environmental issues and the potential adverse effects that may arise from the project.

(15 marks)

Q4. (a) Explain briefly the differences between life-cycle-cost analysis and benefit-cost analysis.

(10 marks)

   (b) Iskandar Malaysia in Johor is planning to introduce a new set of public transit system. Thus, if the vehicle operating costs is RM 0.10/km, travellers value their time at RM 3.00/hour, and the average cost of a traffic accident is RM 25,000, what is the benefit-cost ratio? Assume an interest rate of 9% per annum.

(15 marks)

– END OF QUESTIONS –

TERBUKA

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Figure Q1(b): Statistics of travel demands